

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------|--|
| Applicant's or agent's file reference<br><b>P00135</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                 | <b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416                                     |  |
| International application No.<br><b>PCT/SE2003/000519</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | International filing date (day/month/year)<br><b>01-04-2003</b> | Priority date (day/month/year)<br><b>04-04-2002</b>                                 |  |
| International Patent Classification (IPC) or national classification and IPC<br><b>G01F 1/08</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                 |                                                                                     |  |
| Applicant<br><b>Micronic Laser Systems AB et al</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                 |                                                                                     |  |
| <p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> |                                                                 |                                                                                     |  |
| <p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                 |                                                                                     |  |
| Date of submission of the demand<br><b>04-11-2003</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 | Date of completion of this report<br><b>03-06-2004</b>                              |  |
| Name and mailing address of the IPEA/SE<br>Patent- och registreringsverket<br>Box 5055<br>S-102 42 STOCKHOLM<br>Facsimile No. +46 8 667 72 88                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                 | Authorized officer<br><br><b>Fredrik Wahlin/MN</b><br>Telephone No. +46 8 782 25 00 |  |

Form PCT/IPEA/409 (cover sheet) (January 2004)

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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2003/000519

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the claims:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the drawings:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

|                               |        |                                               |     |
|-------------------------------|--------|-----------------------------------------------|-----|
| Novelty (N)                   | Claims | <u>1-17, 19-22, 28, 32, 34-47, 49-52, 58</u>  | YES |
|                               | Claims | <u>18, 23-27, 29-31, 33, 48, 53-57, 59-61</u> | NO  |
| Inventive step (IS)           | Claims | <u>1-17, 19-22, 35-47, 49-52</u>              | YES |
|                               | Claims | <u>18, 23-34, 48, 53-61</u>                   | NO  |
| Industrial applicability (IA) | Claims | <u>1-61</u>                                   | YES |
|                               | Claims |                                               | NO  |

## 2. Citations and explanations (Rule 70.7)

Documents cited in the international search report.

D1:WO0020928 A1

D2:JP61232457 A

D3:Wo0223272 A1

D1 (page 4 line 15-page 7 line 11, page 10 line 11-27, page 12 line 10-23 page 16 line 5-page 17 line 10) and D2 (abstract) and D3 (page 11 line 10-page 13 line 26) shows a mask blank and a method for manufacturing a mask blank. The mask blank comprises a substrate, a masking layer on said substrate and a layer on said substrate for reducing the reflections.

The invention defined in claims 1-17, 19-22, 35-47 and 49-52 and is not disclosed by any of these documents.

The cited prior art does not give any indication that would lead a person skilled in the art to the claimed mask blank with at least one layer of material on said substrate such that a reflectivity of a writing wavelength back into a film sensitive to the writing wavelength is below 4%. Therefore, the claimed invention is not obvious to a person skilled in the art.

Accordingly, the invention defined in claims 1-17, 19-22, 35-47, 49-52 is novel and is considered to involve an inventive step. The invention is industrially applicable.

D3 also shows a method for manufacturing a mask blank comprising the action of, providing a substrate, forming a masking layer on said substrate, forming at least one layer of material on said substrate such that a surface facing a film sensitive to a writing wavelength is chemically inert.

## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

D3 also show a mask blank comprising, a substrate, a masking layer on said substrate, at least one layer of material on said substrate such that a surface facing a film sensitive to a writing wavelength is chemically inert. The invention according to claim 18 and 48 is not novel.

D3 also shows the invention according to claim 23-27, 29-31, 33, 53-57, 59-61. The invention according to claim 23-27, 29-31, 33, 53-57, 59-61 is not novel.

Claim 28, 32, 34 and 58 is condered to be obvious measures for a person skilled in the art and therefore lack inventive step.